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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/500,210	06/28/2004	Tetsuo Yamashita	360842011300	2598

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MORRISON & FOERSTER LLP
1650 TYSONS BOULEVARD
SUITE 300
MCLEAN, VA 22102

EXAMINER	
CHEN, WEN YING PATTY	

ART UNIT	PAPER NUMBER
2871	

DATE MAILED: 04/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/500,210	YAMASHITA ET AL.	
	Examiner	Art Unit	
	Wen-Ying P. Chen	2871	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *21 February 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,3 and 4* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,3 and 4* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *28 June 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *2/21/06*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

Applicant's Amendment filed Feb. 21, 2006 has been received and entered. Claims 2 and 5-16 are cancelled per the Amendment filed. Therefore, claims 1, 3 and 4 are now pending in the current application.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out

the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nakagi (JP 2001-281648) in view of Chang et al. (US 6867833) and further in view of Kim et al. (US 2002/0018159).

Nakagi discloses in Figure 4 a transflective liquid crystal display comprising a pair of substrates (element 1) disposed opposite to each other with a liquid crystal layer (element 7) held between the pair of substrates, a reflection means (element 2) using ambient light as a light source, a backlight source (not show, Paragraph 0003), and a color filter (element 13) having a transmissive region (element 5) and a reflective region (element 4) which are provided in each picture element of the color filter and which have colored layers comprising a single material, wherein the colored layers of the transmissive region and the reflective region have the same thickness.

Nakagi fails to specifically disclose that a three-peak type LED backlight source is being used as the backlight source and that an aperture is formed in the reflective region.

However, Chang et al. teach in Column 7 lines 43-45 the use of a three-peak type LED backlight source in a transflective type liquid crystal display device and Kim et al. disclose in Figure 4A the formation of aperture in the reflective region.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to construct a transflective liquid crystal display device as taught by Nakagi wherein the backlight source is a three-peak type LED backlight as taught by Chang et al. and to

form aperture in the reflective region as taught by Kim et al., since Chang et al. teach that by using the three-peak type LED backlight together with the color filters enhances the color saturation of the transflective display device (Column 7, lines 46-47) and Kim et al. teach that by forming aperture in the reflective region helps to adjust the characteristics of color and the brightness of the display device (Paragraph 0053).

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nakagi (JP 2001-281648) in view of Chang et al. (US 6867833).

Nakagi discloses in Figures 1 and 2 a transflective liquid crystal display comprising a pair of substrates (element 1) disposed opposite to each other with a liquid crystal layer (element 7) held between the pair of substrates, a reflection means (element 2) using ambient light as a light source, a backlight source (not show, Paragraph 0003), and a color filter (element 3) having a transmissive region (element 5) and a reflective region (element 4) which are provided in each picture element of the color filter and which have colored layers comprising a single material.

Nakagi further discloses in Figure 1 that the color filter (element 3) includes the picture elements of at least one color in each of which the colored layers of the reflective region (element 4) and the transmissive region (element 5) have different thickness.

Nakagi fails to specifically disclose that a three-peak type LED backlight source is being used as the backlight source.

However, Chang et al. teach the use of a three-peak type LED backlight source in a transflective type liquid crystal display device in Column 7 lines 43-45.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to construct a transflective liquid crystal display device as taught by Nakagi wherein the backlight source is a three-peak type LED backlight as taught by Chang et al., since Chang et al. teach that by using the three-peak type LED backlight together with the color filters enhances the color saturation of the transflective display device (Column 7, lines 46-47).

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nakagi (JP 2001-281648) and Chang et al. (US 6867833) and in view of Kim et al. (US 2002/0018159).

Nakagi and Chang et al. disclose all of the limitations set forth in claim 3, but fail to disclose an aperture formed in each of the reflective regions.

However, Kim et al. disclose in Figure 4A the formation of aperture in the reflective region.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to construct a transflective liquid crystal display device as taught by Nakagi and Chang et al. wherein aperture is formed in the reflective regions as taught by Kim et al., since Kim et al. teach that by forming aperture in the reflective region helps to adjust the characteristics of color and the brightness of the display device (Paragraph 0053).

Response to Arguments

Applicant's arguments filed Feb. 21, 2006 have been fully considered but they are not persuasive.

Applicant argues that unexpected result is obtained when using a three-peak type LED in a transflective type of liquid crystal display device such that high color reproducibility of the transmissive display and the excellent color characteristics of the reflective display can be achieved.

However, the unexpected result coincides with the result shown by Chang et al. in Column 7 lines 41-67 and Column 8 lines 1-18. Chang et al. disclose the use of three-peak type LED in a transflective type display device such that the resultant display device can achieve higher color saturation at the backlight mode while maintaining the display effect of high reflectance, thus a LCD having both high brightness and high color saturation can be obtained.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Wen-Ying P. Chen whose telephone number is (571)272-8444. The examiner can normally be reached on 8:00-5:00 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert H. Kim can be reached on (571)272-2293. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Wen-Ying P Chen
Examiner
Art Unit 2871

WPC
4/19/06

ANDREW SCHECHTER
PRIMARY EXAMINER